

**HIGH-EFFICIENCY LOW-POLARIZATION-DEPENDENT-LOSS  
LAMELLAR DIFFRACTION-GRATING PROFILE AND  
PRODUCTION PROCESS**

**ABSTRACT OF THE DISCLOSURE**

A reflective lamellar diffraction grating is provided that is suitable for a variety of applications, including applications related to C-band telecommunication functions. The average efficiency of the diffraction grating in *S*- and *P*-polarization states exceeds 90% while simultaneously providing a PDL less than 0.2 dB over the entire wavelength range used for C-band telecommunication functions. The diffraction grating is thus suitable for incorporation into various telecommunication systems, including a wavelength router configured for routing signals having a plurality of spectral bands.

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